

REMARKS

Claims 1, 2 and 4 – 29 are pending in the present application. Claims 1, 2 and 4 – 21 are rejected in the present Office Action. Claims 22 – 29 have been withdrawn.

Claim 21 was rejected as unpatentable under 35 U.S.C. 112, second paragraph. Claim 21 has been cancelled. Accordingly, it is respectfully requested that the Examiner withdraw the rejection under 35 U.S.C. 112, second paragraph.

Claims 1, 2, 4 – 6, 12 – 13 and 18 were rejected as anticipated under U.S.C. 102(b) by U.S. Patent No. 4,101,952, issued to Burn. Claim 2 has been cancelled. Burn discloses a base metal glass-ceramic capacitor which utilizes a thermoplastic copper resin that is directly coated for firing at temperatures in the range of 950 - 1080°C. This is in direct contrast to the present application in which claim 1 has been amended to clearly show a significantly different application temperature of less than 300°C. Further, the present invention provides for a polymeric metal-filled layer as opposed to a pure metal layer. This is also in direct contrast with Burn in which the firing at a significantly higher temperature results in the burning off of all organic components to leave a pure metal layer. As anticipation under 35 U.S.C. 102 requires identity of invention, in view of the significant differences between the present invention and Burn it is respectfully submitted that claims 1, 4 – 6, 12 – 13 and 18 are patentable under 35 U.S.C. 102(b) over Burn.

Claims 1, 2, 19 and 20 were rejected as unpatentable under 35 U.S.C. 103(a) over JP 03-27003, issued to Nishizawa in view of U.S. Patent No. 4,517,155, issued to Prakash. Claims 2 and 19 have been cancelled. Nishizawa discloses a laminated ceramic capacitor having an internal electrode and an external electrode which contains metal powder. Nishizawa also discloses that oxidation of nickel is much slower than that of copper and thus may potentially be useful in a non-sintering method. Prakash discloses copper end terminations for multilayer ceramic capacitors. While Prakash discloses that it is common in the multilayer ceramic capacitor art to utilize copper powder in external electrodes, it also discloses that a low level of oxygen and temperature in the range of 650-750°C are required to sinter the copper. Such a sintering process is not possible at the lower temperature levels claimed in the present invention. Likewise, one skilled in the art would not be led to the use of copper in non-sintering constructed capacitors such as that of Nishizawa due to copper's fast rate of oxidation. As one skilled in the art would not be led to the present invention via a combination of Nishizawa and Prakash, it is respectfully submitted that claims 1 and 20 are patentable under 35 U.S.C. 103(a) over Nishizawa in view of Prakash.

Claims 1, 2, 4, 7 and 8 were rejected as unpatentable under 35 U.S.C. 103(a) over US Application Publication Number 2004/0176238, published by Ito, in view of JP-2002-332502, issued to Sakagami. Claim 2 has been cancelled. Ito discloses the use of conductive paste containing copper to form external electrodes that are fired at high temperatures. Sakagami

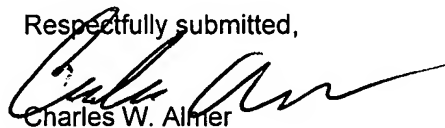
discloses the use of fatty acid coatings on copper powder to improve stability. One skilled in the art would not be led to the present invention via a combination of Ito and Sakagami because at the high temperatures of Ito all organic materials are burned off, resulting in a pure metal layer. Thus, there is no motivation to combine Ito and Sakagami, and even if they were combined, the result would be different than the present invention, which contains a thermoplastic or thermoset resin component. Accordingly, it is respectfully submitted that claims 1, 4, 7 and 8 are patentable under 35 U.S.C. 103(a) over Ito in view of Sakagami.

Claims 1, 2, 4, 9 – 15 and 17 were rejected as unpatentable under 35 U.S.C. 103(a) over U.S. Patent No. 4,499,521, issued to McSweeney in view of U.S. Patent No. 4,999,136, issued to Su. Claim 2 has been cancelled. McSweeney discloses multilayer ceramic capacitors having external electrode terminations directly connected to the capacitor by use of high temperature firing pastes that can be fired at or below 1150°C. The result is a pure metal layer as all organic materials are burned off at the high temperatures. Su discloses an acrylate epoxy and urethane-containing adhesive utilized to attach finished surface mount components on a board. This is distinctly different than the present invention which discloses a polymer termination coating utilized to construct a surface mount component. There is no teaching, suggestion or disclosure that would lead one skilled in the art to utilize the adhesive of Su in a high temperature firing system such as that of McSweeney. Further, even if one skilled in the art were to combine McSweeney and Su the result would be substantially different than the present invention in that the firing temperature would be substantially higher than that of the present invention and no organic materials would be present in the coating. Accordingly, it is respectfully submitted that claims 1, 4, 9 – 15 and 17 are patentable under 35 U.S.C. 103(a) over McSweeney in view of Su.

Claims 1, 2, 4 – 6, 9 and 10 were rejected as unpatentable under 35 U.S.C. 103(a) over Ito in view of JP 2003-187638. Claim 2 has been cancelled. The distinctions between Ito and the present invention set forth above are equally applicable to the present rejection. JP '638 discloses an offset printing process used to print the internal layers of a multilayer ceramic capacitor. There is no teaching, suggestion or disclosure that Ito and JP '638 could be combined because of the high firing temperatures required by Ito. Further, even if one skilled in the art were to combine the references, that person would not be led to the present invention because at the high temperatures of Ito all organic materials are burned off, resulting in a pure metal layer. Accordingly, it is respectfully submitted that claims 1, 4, 7 and 8 are patentable under 35 U.S.C. 103(a) over Ito in view of JP '638.

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance. If there are any issues that the Examiner wishes to discuss, he is invited to contact the undersigned attorney at the telephone number set forth below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Charles W. Almer', written over the typed name.

Charles W. Almer

Reg. No. 36,731

Tel. No. 908 707-3738

National Starch and Chemical Company
10 Funderne Avenue
Bridgewater, NJ 08807
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